

## Claims

1. A network router having an internal automated backup, comprising:
  - a primary port facility;
  - a card array having at least one backup router card; and
  - a switched fabric, wherein the switched fabric automatically replaces a failed router card connected to the primary port facility with a backup router card from the card array.
2. The router of claim 1, wherein the primary port facility comprises a primary processor and a secondary processor.
3. The router of claim 1, wherein the primary port facility has serial connection ports for connecting to router cards.
4. The router of claim 1, wherein the switched fabric comprises:
  - an information system for receiving a failure message from the primary port facility; and
  - a switching system for mechanically replacing the failed router card with the backup router card in response to the failure message.

1 5. The router of claim 4, wherein the information system includes a bus for  
2 communicating routing information between the primary port facility and the card  
3 array.

1 6. The router of claim 4, wherein the switching system includes a replacement  
2 mechanism for mechanically replacing the failed router card with the backup  
3 router card.

1 7. The router of claim 1, wherein the failed router card is moved into an expanded  
2 bay by the switched fabric.

1 8. A network router having an internal automated backup, comprising:

2 a primary port facility;

3 a card array having at least one backup router card; and

4 a switched fabric for automatically replacing a failed router card

5 connected to the primary port facility with a backup router card from the card

6 array, wherein the switched fabric includes an information system for receiving a

7 failure message from the primary port facility and a switching system for

8 replacing the failed router card with the backup router card.

1 9. The router of claim 8, wherein the primary port facility includes a primary  
2 processor and a secondary processor.

1 10. The router of claim 8, wherein the switching system includes a replacement  
2 mechanism for mechanically replacing the failed router card with the backup  
3 router card.

1 11. The router of claim 8, wherein the information system includes a bus for  
2 communicating routing information between the primary port facility and the card  
3 array.

1 12. The router of claim 8, wherein router cards connect to the primary port  
2 facility and the card array via male-female connections.

- 1 13. The router of claim 8, wherein the failed router card is moved into an
- 2 expanded bay by the switched fabric.

13. The router of claim 8, wherein the failed router card is moved into an expanded bay by the switched fabric.

1 14. A network router having an internal automated backup, comprising:  
2 a primary port facility having a primary processor and a secondary  
3 processor;  
4 a card array having backup router cards; and  
5 a switched fabric for automatically replacing a failed router card  
6 connected to the primary port facility with a backup router card from the card  
7 array, wherein the switched fabric includes an information system for receiving a  
8 failure message from the primary port facility and a switching system for  
9 mechanically replacing the failed router card with the backup router card.

1 15. The router of claim 14, wherein the switching system comprises a  
2 replacement mechanism that connects and disconnects router cards from the  
3 primary port facility and the card array.

1 16. The router of claim 15, wherein the router cards connect to the primary port  
2 facility and the card array via male-female connections.

1 17. The route of claim 14, wherein the information system includes a bus that  
2 communicates routing information between the primary port facility to the card  
3 array.

1 18. The router of claim 14, wherein the failed router card is moved into an  
2 expanded bay by the switched fabric.